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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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John Christopher Adams

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BANK OF AMERICA PLAZA

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EXAMINER

DESAI, ANISH P

ART UNIT

PAPER NUMBER

1771

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/717,173	Applicant(s) ADAMS ET AL.	
	Examiner Anish Desai	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 11-15, 17, 19-21, 26 and 31-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11-15, 17, 19-21, 26 and 31-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/04/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's arguments in response to the Office action dated 12/28/06 have been fully considered.

1. Claims 1-7, 11-15, 17, 19-21, 26, 31-37 are pending. Claims 8-10, 16, 18, 22-25, and 27-30 are cancelled.
2. All of the previously made art rejections are maintained.
3. A new ground of rejection is made over Fumiaki (JP 2001-341453).

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, and 19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fumiaki (JP 2001-341453) (Machine translation provided by the Examiner).

Regarding claims 1 and 19, Fumiaki teaches a heat sensitive stencil master comprising a thermoplastic polymeric film (heat-sensitive polymeric film) coated with an

ink permeable porous layer (foam coating) (abstract). The polymeric film of Fumiaki has thickness of 0.5 to 5 micrometers (0014). Additionally, Fumiaki teaches that the resin forming the porous layer comprises a surfactant (foaming agent) (0011). According to Fumiaki, the resin for forming the porous layer is water in oil (W/O) emulsion and it is applied to the thermoplastic film and dried to form a porous layer (0012). The water in oil emulsion of the resin for forming the porous film of Fumiaki reads on the dispersion of the resin as required by the presently claimed invention and the dried porous layer of Fumiaki reads on the solid foam as required by the presently claimed invention.

Further, Fumiaki teaches that various crosslinking agents such as melamine, toluene isocyanate can be added to the porous resin (0009). Therefore, Fumiaki discloses cross-linked foam coating as required by the presently claimed invention. Further regarding claim 19, Fumiaki teaches that carbon fibers (filler) can be added to the resin for forming the porous layer (0010). The aforementioned disclosure of Fumiaki, specifically adding crosslinking agent, foaming agent, and filler to a resin (W/O emulsion) for forming a porous layer, coating the resin onto a polymeric film, and drying the coating to form a porous layer reads on “wherein the solid-cross linked foam coating is obtained by coating onto a heat-sensitive polymeric film a liquid foam comprising a foaming agent and a resin dispersed or dissolved in a volatile liquid, drying the liquid to form a solid foam” as required by claim 1 and “wherein the solid cross-linked coating is formed by cross-linking the resin with filler dispersed therein” as required by claim 19.

As to the claim limitation of “cross-linking of the foam by irradiation to form a solid cross-linked foam coating”, said limitation is product-by-process limitation. The product-

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by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). The product of the presently claimed invention includes a heat-sensitive polymeric film having coated thereon a solid cross-linked foam coating. Further, the foam of the presently claimed invention is formed by adding foaming agent and filler to the resin that is either dispersed or dissolved in a volatile liquid, the liquid for forming the foam is then dried to form a solid foam and finally the foam is cross-linked using radiation. Fumiaki discloses a heat-sensitive polymeric film having coated thereon a porous layer that is formed by adding to a W/O emulsion resin a foaming agent, filler, and a crosslinking agent. Further, the resin for forming the porous layer of Fumiaki is dried. The Examiner sees no significant or unobvious structural or compositional difference in the product (i.e.

solid cross-linked foam) of Applicant and that of Fumiaki. Accordingly, Fumiaki anticipates or strongly suggests the claimed invention.

5. Claim 1 is rejected under 35 U.S.C. 102(a) as anticipated by Yamaguchi (JP 2003-096145) (Machine translation provided by the Examiner).

Regarding claim 1, Yamaguchi teaches a heat sensitive stencil printing having a porous resin layer on one side of a thermoplastic film (abstract). The thickness of the thermoplastic film is 0.1 to 5.0 micrometers (0028). Additionally, Yamaguchi teaches that "In this method of manufacturing porous material, a water in oil type emulsion of electron beam curing resin or an ultraviolet curing resin is irradiated with an electron beam or ultraviolet ray to cure the resin component and the water component is dried up." (abstract). The porous resin layer of Yamaguchi comprises a surfactant (0016) and a foaming agent (0016). This disclosure of Yamaguchi reads on "wherein the solid cross-linked foam coating is obtained by coating onto a heat-sensitive polymeric film...cross-linked foam coating." as required by claim 1.

6. Claims 1, 2, 11, 13-15, 17, and 32-34 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Arai (US 6,372,332 B1).

With respect to claims 1, 2, 11, 13-15, and 17, Arai discloses a thermosensitive stencil paper (a heat-sensitive stencil master) having a porous resin layer (abstract) provided on a thermoplastic resin film (heat-sensitive polymeric film) of thickness of 0.5 to 5 μm (column 9, lines 53-55), by coating a porous resin layer formation coating liquid

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(resin) including a water-in-oil (W/O) emulsion of a resin on the thermoplastic resin film and drying the coating liquid (abstract). Thus, the dried porous resin layer of Arai reads on the solid-foam. Arai discloses dispersion of polyurethane resin particle in polyurethane resin solution (column 5 lines 51-55). Arai further teaches that to prepare the W/O emulsion an emulsifier (foaming agent/surfactant) having HLB value of 8 to 20 is used (column 8, lines 1-7). Additionally, Arai discloses that when necessary the porous resin layer formation coating liquid may comprise a crosslinking agent, an antistatic agent, an agent for preventing the sticking etc. (column 8, lines 44-45). Thus, Arai discloses cross-linking of the porous resin. Alternatively, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add a crosslinking agent in the coating liquid (resin) and crosslink the coating liquid, motivated by the desire to prevent cracks in the coating layer while it is drying. Moreover, Arai teaches that the porous resin layer may (solid foam) further comprise an antistatic agent (column 8, line 44) and emulsifier (foaming agent) such as sulfate (column 8, line 17). According to Arai, in order to prevent the thermosensitive stencil paper from sticking to the thermal head in the course of making the perforations in the thermoplastic resin film, the thermosensitive stencil paper may further comprise, a sticking preventive layer which is provided on the other side of the thermoplastic resin film, opposite to the porous resin layer with respect to the thermoplastic resin film (column 9, lines 29-35).

Regarding claims 1 and 11, the limitation of “cross-linking the solid foam by irradiation to form a solid cross-linked foam coating” and “wherein the resin is cross-

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linked by electron beam radiation" are product by process limitations. The product by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). The product of the presently claimed invention includes a heat-sensitive polymeric film having coated thereon a solid cross-linked foam coating. Further, the foam of the presently claimed invention is formed by adding a foaming agent and filler to the resin that is either dispersed or dissolved in a volatile liquid. Additionally, the liquid for forming the foam is then dried to form solid foam and finally the solid foam is cross-linked using radiation. Thus, the resultant product of the presently claimed invention includes a thermoplastic film having a layer of solid cross-linked foam. Arai discloses, a heat-sensitive polymeric film having coated thereon a porous layer that is formed by adding to a W/O emulsion resin a foaming agent a crosslinking agent. Further, the resin for forming the porous

layer of Arai is dried. The resultant product of Arai comprises solid cross-linked foam on a heat-sensitive polymeric film. Thus, the Examiner sees no unobvious difference (i.e. structure or compositional) between the product of Applicant and that of Arai.

With respect to claims 32-34, Arai teaches that the bending rigidity (stiffness) of the thermosensitive paper is in the range of 10 to 50 mN (column 9, lines 60-65) and deposition amount (coating weight) of the porous resin layer is in the range of 2 to 30 g/m² (column 8, lines 61-65), which reads on the stencil master having a stiffness (mN) to coating weight (g/m²) ratio of at least 6, at least 8, and at least 10 as claimed in claims 32-34 respectively. Accordingly, Arai anticipates or strongly suggests the claimed subject matter.

7. Claims 3-7, 19-21, 26, and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai (US 6, 372, 332 B1) as previously disclosed, and further in view of Mori (US 5,908,687).

The invention of Arai is previously disclosed and is applicable to claims 19, 26 and 35-37. Arai further teaches that the bending rigidity of the thermosensitive stencil paper can be adjusted by controlling the deposition amount of the porous resin layer and adding a filler to the porous resin layer (column 10, lines 12-15). Arai is silent as to teaching filler is selected from the group consisting of carbon fibers, carbon particle and mixture thereof (claims 3, 19), fibrous material has a diameter of greater than 1 μm and less than 10 μm, and a length in the range of 100 μm to 500 μm (claims 4-5), fibrous material or filler is carbon fibers (claims 6-7 and 19), carbon fibers has diameter of

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greater than 1 μm and less than 10 μm and a length in the range of 100 μm to 500 μm (claims 20-21).

However, Mori teaches a heat-sensitive stencil including a thermoplastic resin film and a porous resin layer formed thereon, wherein the porous resin layer of Mori comprises a filler (Abstract and column 2, lines 45-46). According to Mori, the filler is in the form of fibers having average length in the range of 30 μm to 10 mm (10,000 μm) (column 2, lines 48-19) and average diameter of at least 4 μm (column 2, lines 59-60). Further, Mori teaches that the fibers may be for example, natural fibers, mineral fibers, glass fibers, carbon fibers etc. (column 2, line 50-53). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add the fibrous filler such as carbon fibers of dimensions (length and diameter) as taught by Mori, in the porous resin layer of Arai, motivated by the desire to provide satisfactory tensile strength and bending stiffness to the thermosensitive stencil paper of Arai.

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arai (US 6, 372, 332 B1) in view of Shiraki et al. (US 4,507,458).

The invention of Arai is previously disclosed. Arai further teaches that W/O resin emulsion can be acrylic polymer, ester polymer, urethane polymer etc., and modified polymers and copolymers comprising monomer constituting above-mentioned polymers copolymer (column 5, lines 34-40). Arai is silent as to teaching resin is a polyurethane cross-linked through unsaturated acrylate groups. However, Shiraki teaches a crosslinked urethane acrylate resin that excel in both elongation at break and tensile strength can be used for base coatings for paper and polyethylene films (abstract and

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column 1, lines 1-7). The examiner recognizes that the secondary reference of Shiraki is not in the applicant's field of endeavor (i.e. a heat-sensitive stencil master). However, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the secondary reference of Shiraki is reasonable pertinent to the particular problem with which the applicant is concerned. According to the specification page 5, lines 24-29, "Good results have been achieved by electron beam curing of emulsions based on acrylate derivatives of polyol polyurethanes. Using a dose in the range 3-5 Mrad and acceleration voltages in the range 125-200 kVolts significant increases have been achieved in both the stiffness and tensile strength of the solid foam coatings." The urethane acrylate resins of Shiraki are also crosslinked using radiation (column 4, lines 28-31) and excel in elongation at break and tensile strength (column 1, lines 1-7). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use urethane-acrylate of Shiraki, in the porous resin layer coating of Arai, motivated by the desire to provide excellent tensile strength to the porous resin layer coating.

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9. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arai (US 6, 372, 332 B1) in view of Mori (US 5,908,687) as applied to claims 1 and 6 above, and further in view of Yoshida (Japan Patent Application No. 11-179699). US 6,357,347 to Yoshida is relied on as equivalent form of Japan Patent Application No. 11-179699 for convenience.

The invention of Arai as modified by Mori is previously disclosed. Arai is silent as to teaching of polymeric fibers are selected from the group consisting of polyester fibers and polyvinyl alcohol fibers. However, Yoshida teaches a stencil sheet formed by laminating a thermoplastic resin film and a porous support wherein the porous support comprises polyester fibers (Column 2, lines 59-61), which are preferred from point of view of heat stability at perforation (column 3, lines 44-45). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polyester fibers of Yoshida and add to the porous resin layer of Arai, motivated by the desire to improve the tensile strength and provide heat stability at perforation of the thermosensitive stencil paper of Arai.

Response to Arguments

10. Applicant's arguments received on 05/29/07 have been considered but they are not found persuasive.

Applicant argues that Arai does not teach or suggests the steps (process) of forming solid cross-linked foam as recited in the presently claimed invention. According to Applicant the porous resin layer forming coating liquid disclosed by Arai are not capable of drying to form solid foam prior to cross-linking as claimed. The Examiner

respectfully disagrees. As to Applicants arguments regarding steps of forming solid cross-linked foam as claimed in the present invention are related to product-by-process limitation. As previously stated the product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). The rationale showing that the claimed product appears to be same or similar to the prior art is set forth in this (please see Section 6 above) and previous Office Action (page 4-5 of 12/28/06 Office Action). Applicant has provided no factual evidence on the record that would indicate that the porous resin layer of Arai is structurally or compositionally different than Applicant's claimed foam. As to the Applicant's argument that the resin layer forming coating liquid disclosed by Arai are not capable of drying to solid foam prior to cross-linking as claimed, this argument is not found persuasive in

determination of patentability, because said argument is based on Applicant's personal opinion and there is no factual evidence on the record to support this argument.

Applicant argues that the resin product formed by radiation cross-linking as presently claimed is chemically distinct from the resin product formed by the use of a chemical-linking agent, such as disclosed by Arai. According to Applicant, when chemical cross-linking agents are used, they become a part of the final product. The Examiner respectfully disagrees with Applicant's arguments, because they are based on Applicant's personal opinion and there is no factual evidence on the record to support this argument. Additionally, claims as recited do not exclude chemical cross-linkers from the FINAL product (i.e. cross-linked foam). Lastly, no unobvious difference between radiation cured foam and chemically cured foam is recognized or evidenced (note rejection is under 102 or alternatively 103).

Applicant argues that Arai do not disclose use of a liquid foam comprising a resin dispersed or dissolved in a volatile liquid (e.g. a W/O emulsion), rather Arai describes O/W (oil in water) emulsions. The Examiner respectfully disagrees. Arai discloses W/O emulsion such as polyurethane resin (column 3 lines 54-55, column 4 lines 12-21, and column 5 lines 34-35). Further, Applicant argues that Arai does not disclose drying of the foam to form solid foam prior to cross-linking. The Examiner respectfully disagrees. Arai discloses drying of porous resin layer that is coated onto a thermoplastic film (abstract). The dried porous resin layer of Arai reads on the solid foam.

Applicant's asserts that the presently claimed invention provides surprising increase in tensile strength and stiffness. Applicant argues that the Example 6A and

Example 6B of presently claimed invention use the same liquid preparation, however the Example 6B was cross-linked after drying whereas Example 6A was not cross-linked. According to Applicant, the coating of the Example 6A exhibited stiffness of 15 mN while the cross-linked example 6B exhibited stiffness of 120 mN. Similarly, according to Applicant the tensile strength values of cross-linked (Example 6B) and uncross-linked example (Example 6A) were 0.72 kgF and 0.33 kgF respectively. Applicant asserts that these improved physical properties further support non-obviousness of the presently claimed invention over Arai. The Examiner respectfully disagrees. Although, Applicant has generally argued the improvement of properties, Applicant has failed to show if these improved properties are unexpected. Additionally, Applicant has not compared the claimed invention with the closest prior art which happens to be cross-linked. Further, even if assuming *arguendo* that Applicant's assertion of improvement in tensile strength and stiffness is correct, these improvements are not unexpected in view of what is already known in the art. It is known that the cross-linking of a polymeric material improves its physical properties such as tensile strength and stiffness. Therefore, one of ordinary skill in the art would have reasonably expected improvement in tensile strength and stiffness by cross-linking the foam coating. Accordingly art rejections are maintained.

Applicant argues that none of the other cited references e.g. Mori or Yoshida teach or suggest cross-linking. The Examiner is not relying on Mori or Yoshida to teach this feature, instead the primary reference of Arai is relied upon to teach the feature of cross-linking. Applicant argues that the Examiner has failed to provide any motivation in

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combining the references of Shiraki and Arai and further the Examiner has provided no nexus between the reference of Shiraki and Arai. Thus, Applicant concludes that the Examiner is relying on impermissible hindsight. The Examiner respectfully disagrees.

While no motivation to combine the references is actually required to make an obviousness type rejection, nonetheless motivation is provided on page 8 of the action mailed 12/28/06. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The primary reference of Arai is relied upon to teach cross-linked foam.

Additionally, Arai discloses that W/O emulsion resin can be acrylic polymer...urethane polymer and modified polymers and copolymers comprising monomer constituting above-mentioned polymers copolymer (column 5 lines 34-40). Arai is silent with respect to teaching polyurethane cross-linked through unsaturated acrylate groups. The secondary reference of Shiraki is relied upon to teach cross-linked urethane acrylate resin that excels in both elongation at break and tensile strength (abstract and column 1 lines 1-7). The examiner recognizes that the secondary reference of Shiraki is not in the applicant's field of endeavor (i.e. a heat-sensitive stencil master). However, it has been held that a prior art reference must either be in the field of applicant's endeavor or,

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if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In the instantly claimed situation, the secondary reference of Shiraki is reasonable pertinent to the particular problem with which the applicant is concerned. According to the specification page 5, lines 24-29, "Good results have been achieved by electron beam curing of emulsions based on acrylate derivatives of polyol polyurethanes...significant increases have been achieved in both the stiffness and tensile strength of the solid foam coatings.". The urethane acrylate of Shiraki is also cross-linked using radiation and excels in elongation at break and tensile strength (column 1 lines 1-7). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use urethane-acrylate of Shiraki, in the porous resin layer coating of Arai, motivated by the desire to provide excellent tensile strength to the porous resin layer coating. Therefore nothing was relied on that could be gleaned only from the applicant's disclosure. As such only proper hindsight was employed in analyzing Applicant's claims. Accordingly, art rejections are maintained.

Conclusion

Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 06/04/07 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anish Desai whose telephone number is 571-272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

APD
/A. D./

/Terrel Morris/
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